

## REMARKS

Reconsideration of the present application as respectfully requested. Claims 12, 13 and 16-19 stand rejected under 35 USC §103(a) over Niimi et al. Applicant respectfully disagrees since there is no dispute that the cited reference fails to show or suggest Applicant's claimed encircling limitation, and the justification set forth in the office action contravenes the mandates of the MPEP and relevant case law. In particular, MPEP §2143.01 makes it clear that the "fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish prima facie obviousness." It is also unfair to assert that one with ordinary skill in the art would look to the engine piston making strategy taught by Niimi et al. for insight into how to make a pump barrel as in Applicant's claimed invention. In other words, there is absolutely no justification of record to support the notion that one with ordinary skill in the art of pump making would look to a reference that teaches how to make an engine piston. Is the office action asserting that one with ordinary skill in the art of pump making would be motivated to wander aimlessly through any art pertaining to metal castings and have the insight to recognize coincidental similarities in features of those castings with regard to how to cast a pump barrel? MPEP §2143.01 also makes it clear that just because a reference can be modified is not sufficient to establish prima facie obviousness. Finally, Applicant respectfully asserts that MPEP §2143.01 forbids a modification that renders a prior art reference unsatisfactory for its intended purpose.

In this case, there is no evidence of record to support the notion that the Niimi et al. engine piston would still be functional as a piston if its central bore core were positioned to be encircled by its ring shaped core, in order to satisfy all of Applicant's claim requirements. In other words, the metal in the region at the top of such a modified engine piston would be so thin as to render such a modified engine piston unsuitable for its intended purpose, and Niimi et al. makes no suggestion that such a modified "piston" might find use in a pump barrel as per Applicant's claims. An unanswered question reflected in the office action is why one with ordinary skill in the art would look to a reference that teaches how to make an engine piston, and somehow have the insight to recognize how to make a pump barrel from a conjured up modification to an engine piston. How would a skilled artisan in the field of pump barrel manufacture even know that engine pistons with a ring shaped cooling passage even existed?

When one considers this question, it becomes clear that it would only be by chance that one with ordinary skill would recognize that certain engine pistons are cast, that they include a central bore, and further that they include a ring shape cavity, and that these engine piston features share some similarity to the pump barrel of the present invention. This is the reason why Applicant's preamble can not be utterly ignored and given absolutely zero patentable weight. It is Applicant's preamble that renders the cited reference as non analogous art to the claimed invention. In other words, Applicant's claims are not directed to a method of casting a thing; they are directed to a method of casting a pump barrel, which is different than an engine piston. This is true even if the Niimi et al. piston shares some features in common, by coincidence, with the Applicant's pump barrel. Therefore, the rejections should be withdrawn, or there should be some reasoning set forth in the office action as to why one with ordinary skill in the art of making pump barrels would be motivated to look to an engine piston making reference, such as Niimi et al., for insight in how to cast a pump barrel.

Even if one with ordinary skill in the art of making pump barrels would, for some as yet unidentified reason, look to the art of casting engine pistons in an entirely different class, the issue of Applicant's encircling limitation is still not met. Is the office action asserting that one with ordinary skill in the art would make an engine piston with Applicant's claimed encircling feature, or is the office action asserting that one with ordinary skill in the art of making engine pistons would recognize that an engine piston casting that included Applicant's encircling feature might find potential application as a pump barrel since it would be unsuitable as an engine piston? Applicant respectfully requests that the Examiner in any subsequent office action return to first principles and lay out a clear line of reasoning that is compatible with the MPEP and relevant case law for how one with ordinary skill in the art of making the pump barrels would have reason to look to the engine piston making art and then have the insight to modify one of those references to include a feature not even known or taught in that art. Although the Examiner has shown remarkable resourcefulness in finding the Niimi et al. reference, there is no support in the record for the notion that one with ordinary skill in the art of making pump barrels would have the Examiner's insight and resourcefulness, and still be considered one with ordinary skill.

Claim 13 should be allowable over and above the reasons set forth with regard to claim 12 since it requires that the ring shaped core be supported atop a plurality of pillars. There

should be no dispute that Niimi et al. appears to recognize such an alternative in his background section, and clearly teaches away from that alternative. Therefore, the Examiner has impermissibly modified the cited reference against its own teachings in order to arrive at Applicant's claimed invention, even assuming that that person of ordinary skill in the art could overcome the problems associated with the rejection against base claim 12. There should be no dispute that the MPEP and relevant case law flatly forbid a reference from being modified against its own teaching. Therefore, the §103 rejection against claim 13 should be withdrawn.

With regard to claim 16, Applicant's claim limitations can not be merely dismissed based on an assertion of obvious design choice. Again, Niimi et al. explicitly teaches in a direction different from the requirements of claim 16. Therefore, in order to support a proper §103 rejection of claim 16, assuming the problems associated with claim 12 could be overcome, the Examiner must cite to another reference teaching a ring shaped casting where Applicant's claimed methodology for breaking the ring shaped core is either taught or suggested. In other words, the Niimi et al. reference simple can not stand alone to support a §103 rejection against claim 16 and still abide by the mandates of the MPEP and relevant case law.

Claim 17 should also be allowable over the art of record since Niimi et al. does not show or suggest machining a plurality of parallelly oriented openings in the casting. The cited passages in Niimi et al. merely make it clear that in order for its ring shaped cavity to function as an oil cooling passage, one must machine additional passages between the ring shaped cavity and its central core, but it is difficult to imagine how this could be accomplished with parallelly oriented passages as required by Applicant's claim. In addition, this requirement of Niimi et al. seems to contradict the requirement that the central bore be fluidly isolated from the ring shaped cavity of Applicant's claimed pump barrel casting. And this again casts doubt on why one with ordinary skill would look to an engine piston casting art that must include fluid connections between any ring shaped cooling passage and its central core cavity in order to be operable, which is directly opposite from the requirements of Applicant's claimed pump barrel casting.

Claims 18 and 19 should also be allowable over and above claim 12 since there is no support in the record for the notion that one with ordinary skill in the art would ever attach check valves to an engine piston, or machine conical valve seats on an engine piston casting. Therefore, Applicant again respectfully asserts that Niimi et al. can not stand alone to support a

§103 rejection against claims 18 and 19. Therefore, Applicant again respectfully requests that these rejections be withdrawn.

Claims 14, 15 and 20 stand allowed. Applicants appreciate the indication of allowable subject matter.

New claims 21-29 have been added and are believed allowable over the art of record. A check in the amount of \$200.00 is included to cover the excess independent claim fee. However, the Director is authorized to charge any underpayment or credit any overpayment to deposit account number 500226.

This application is now believed to be in condition for allowance of claims 12-29. However, if the Examiner believes that some minor additional clarification would put this application in even better condition for allowance, the Examiner is invited to contact the undersigned attorney at (812) 333-5355 in order to hasten the prosecution of this application.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'MB2' followed by a large checkmark or stylized 'V'.

Michael B. McNeil

Reg. No. 35, 949